

# **TECH DRAW**

## **Graphics Software**

**For the  
TIMEX/Sinclair  
TS2068 Computer  
and the  
Zebra Graphics Tablet**

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# Tech-Draw

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## WELCOME TO Tech-Draw

Tech-Draw was inspired by Apple's MacPaint for the Macintosh computer. Like MacPaint, Tech-Draw works in black and white, so that what you see on your screen is what you get on your printer. Instead of drawing with the Timex 2068's eight colors, Tech-Draw provides 35 black and white shades and patterns. Resolution to one pixel is achieved in black and white mode.

Tech-Draw was designed for use with the Zebra Graphics Tablet. Before loading and running Tech-Draw you should set up the Graphics interface and Tablet in accordance with your owner's manual.

## NOTE ON USING THE GRAPHICS TABLET

For best results you should draw on the tablet with a firm (hard) pressure and a slow to moderate speed.

## LOADING Tech-Draw

To load Tech-Draw position the cassette in your recorder and ensure that it is fully rewound. Type (j key for LOAD):

LOAD " "

and press ENTER and the play lever on your cassette recorder. Tech-Draw loads in four parts. The Beeper will sound twice when the load is complete, signalling you to stop the tape. After pressing any key you will be presented with the options of customizing Tech-Draw for different 80 column printers, making a customized back up, or running Tech-Draw.

'R' to RUN Tech-Draw

'C' to customize for printer

'B' to make custom backup



## PRINTER CUSTOMIZATION OPTION

Tech-Draw supports the Timex 2040 and Alphacom 32 printers, but it can also use 80 Column printers if either an AERCO or TASMAN Centronics Printer Interface is attached to the computer. Tech-Draw currently supports the printers shown in the printer customization menu. Select your printer and press ENTER. This tells Tech-Draw to load your custom printer driver. Once this is complete we are then presented with the Interface Customization menu. Select your interface and press ENTER. We are then returned to the startup menu, and at this point you could type 'B' to make a backup cassette so that in the future you don't have to customize Tech-Draw for your printer again or press 'R' to run Tech-Draw.

## RUNNING Tech-Draw

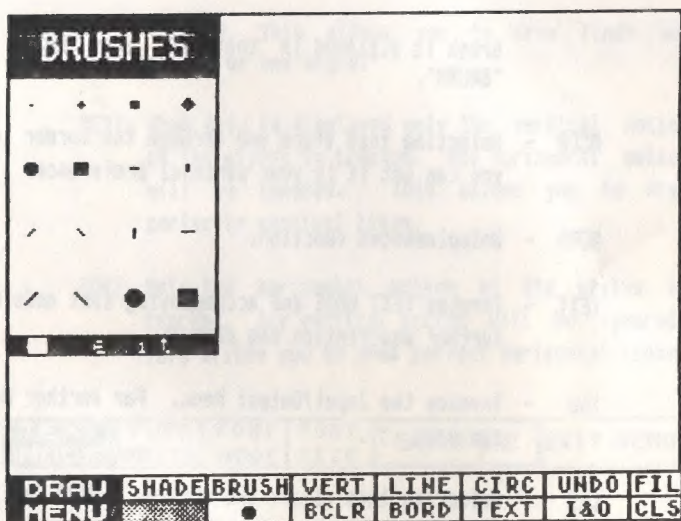
After pressing 'R' the screen will clear and a menu will be presented on the bottom two lines, press the right hand button on your graphics tablet and you will get a cursor near the center of the screen. This cursor will follow the motion of stylus (pen) on your graphics tablet.

## THE MENU'S

Tech-Draw utilizes a number of menu's which allow access to and control of all of it's functions...

MAIN MENU'S - The bottom of your screen is the Main menu area.  
----- The primary Main menu is the DRAW MENU. This menu allows access to three other main menu's (I&O MENU, TEXT MODE, LINE MODE) as well as providing a full set of drawing functions.

POP-DOWN MENU'S - Certain Main menu items will invoke a  
----- pop-down menu which is displayed in the upper left portion of the screen.



### SELECTING MENU ITEMS

To select a menu item you merely point your cursor at the item and press the left button of the graphics tablet. Throughout the rest of this manual the word 'Select' will refer to this point and press sequence.

### Tech-Draw FUNCTIONS

In the pages that follow you will find descriptions of all the functions of Tech-Draw .....

DRAW	SHADE	BRUSH	V&H	LINE	CIRC	UNDO	FIL
MENU		●	BCLR	BORD	TEXT	I&O	CLS

**SHADE -** Selecting this invokes a pop-down menu from which you can select any of 35 shades (patterns). The currently selected shade is displayed in the main menu, below the word 'SHADE'.

**BRUSH -** Selecting this invokes a pop-down menu from which you can select any of 16 brushes. The currently selected

brush is displayed in the main menu below the word 'BRUSH'.

- BCLR - Selecting this steps you through the border colors so you can set it to your personal preference.
- BORD - Unimplemented function.
- TEXT - Invokes TEXT MODE and accompanying text mode menu. For further description see page 5.
- I&O - Invokes the Input/Output Menu. For further description see page 7.
- CLS - Selecting this clears the screen. UNDO will reverse this.
- FIL - Select this to fill areas bounded by unbroken lines with the current shade. Menu item blinks when active indicating you must select the start point. UNDO reverses this function.
- UNDO - Selecting this Undoes the last drawing operation (eg; CIRC, FIL, LINE, CLS). You can Undo the Undo.
- LINE - Selecting this invokes LINE MODE and the accompanying LINE MODE Menu. For further description of LINE MODE see page 6.
- CIRC - Select this to draw perfect circles. Menu item will blink when active, indicating you must select the center and then a point on the edge of your desired circle. So select the center and then the edge and the circle will be drawn with the current Brush and Shade.
- V&H - This Main menu box can display three different items; V&H, VERT, HORZ. Selecting this box steps you through these items. Their meaning is as follows ....  
  
V&H - When this is displayed all motion (both the vertical and horizontal) of the stylus will be



tracked. This allows you to draw lines and curves of any angle.

**VERT-** When this is displayed only the vertical motion of the stylus is tracked. Any horizontal motion will be ignored. This allows you to draw perfectly vertical lines.

**HORZ-** Only the horizontal motion of the stylus is tracked. Any vertical motion will be ignored. This allows you to draw perfect horizontal lines.

<b>TEXT MODE</b>	<b>TYPE WRITE</b>	<b>FONT MODE</b>	<b>FONT SIZE</b>	<b>SAMPLE</b>	<b>EXIT MENU</b>
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**TEXT MODE** provides you with a character block cursor which you can position with bit resolution. Any time you press a key a character will be printed to the screen at the current cursor position. This allows diagonal and curved lettering.

**TYPE -** Selecting this invokes the full screen editor. The **WRITE** menu box will blink when editor is active. The editor gives you full cursor control, caps lock, and delete. To exit **TYPE WRITE** press the **ENTER** key.

**FONT -** Selecting this invokes a pop-down menu from which you can select the mode in which the text characters will be printed in. (e.g.; normal, italics, or bold)

**FONT -** Selecting this invokes a pop-down menu from which you can select the size of the text characters. (e.g.; small, medium, and large)

**SAMPLE-** The box with the word 'SAMPLE' in it always displays the current state of Font selections.

LINE MODE	SHADE	BRUSH	V&H	UNDO	DESG	EXIT MENU
		●				

LINE MODE allows you to easily draw connected straight lines. These lines are drawn with the current Brush and Shade. On entry to LINE MODE the first select with the cross-hair cursor designates the start point for your connected line series. Thereafter each select designates the next end point and a line is drawn from the last end point to the current end point.

**V&H** - Selecting this menu box steps you through three items; V&H, VERT, HORZ. When V&H is displayed lines of any angle can be drawn. When VERT or HORZ is displayed you can draw vertical and horizontal lines depending on whether your end point is closer to the vertical or the horizontal.

**UNDO** - Selecting this Undoes the last line segment and you can select a new end point.

**DESG** - Selecting this allows you to designate (select) a new start point for a connected straight line series. (in same way as on initial entry to LINE MODE)





I&O MENU	CPY32	CPY80	SAVE	VERIFY	LOAD	EXIT MENU
-------------	-------	-------	------	--------	------	-----------

The I&O MENU provides all the input/output functions of Tech-Draw. The long blank box on the bottom of the menu is the message/input window.

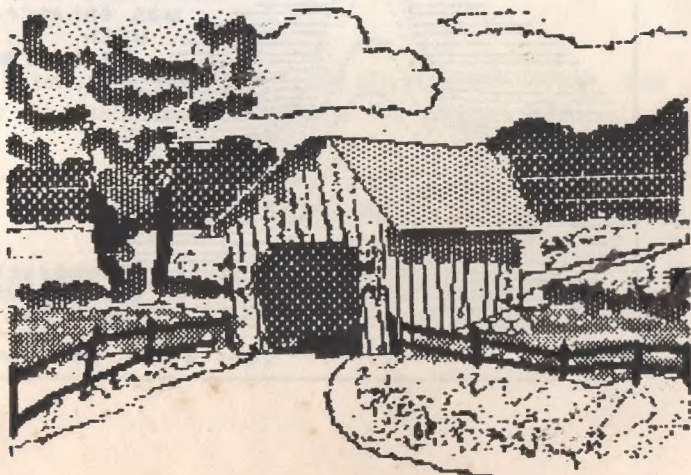
CPY32 - Selecting this copies the screen image to your TS2040 or Alphacon printer.

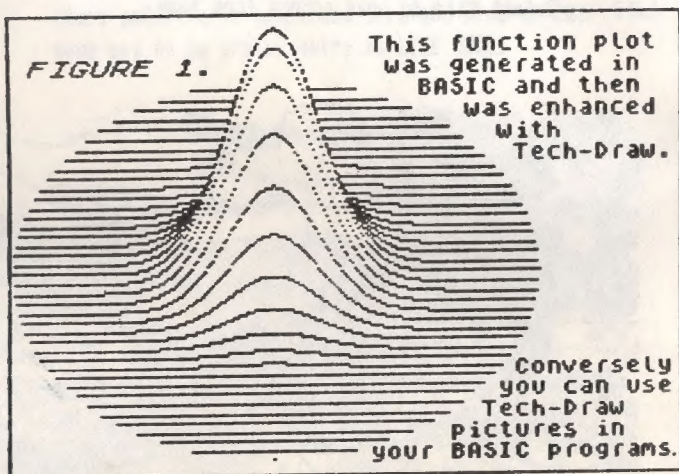
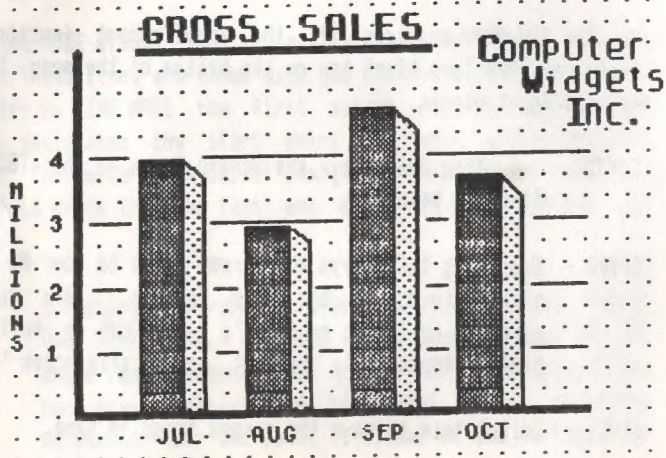
CPY80 - Selecting this copies the screen image to your 80 column printer in one of two size formats. You will be prompted by 'Large or Small'; To get a full page blow-up press 'l'; to get normal size press 's'.

SAVE - Select this to save the screen image to tape.

VERIFY - Select this to verify the previous SAVE. You must specify a name. At end of verify the message TAPE GOOD or TAPE BAD will be displayed. To proceed press any key

LOAD - Select this to load screen from tape.





## UPLOADING/DOWNLOADING Tech-Draw PICS via MODEM

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You can Send and Receive screen images via your Westridge 2050 MODEM and SMART II software. To Send a Tech-Draw screen image that has been SAVED to tape use the following procedure;

- 1) LOAD your SMART II program.
- 2) Enter these direct commands (without line numbers);  
    <POKE 23627,32852-256\*INT (32852/256)>  
    <POKE 23628,INT (32852/256)>
- 3) Run SMART II with <PRINT USR 54016> and check that BUFUSD=6155. If not, then exit to BASIC and repeat the above POKEs.
- 4) Exit to BASIC and then LOAD your desired Tech-Draw screen image from tape with <LOAD "name" CODE 26710>.
- 5) Return to SMART II, set CON:Hex, and then transmit buffer.

If you are on the Recieving end of the screen tranfer then after the tranfer is complete follow the procedure below;

- 1) Exit from SMART II back to BASIC.
- 2) Enter this direct command (without line number);  
    <FOR L=16384 to 22527: POKE L,PEEK (L+10326): NEXT L>.



## TRANSPORTING Tech-Draw PICS to/from BASIC

Screen images are SAVED and LOADED by Tech-Draw as CODE starting at address 16384 for a length of 6144 bytes. Therefore use ....

LOAD "name" CODE 16384,6144

.... to LOAD Tech-Draw Pictures into your own BASIC programs. Screen images SAVED from your own or other BASIC programs will LOAD into Tech-Draw if SAVED in the following format;

SAVE "name" CODE 16384,6144

Screens SAVED from BASIC in the 'SAVE "name" SCREEN\$' format will LOAD into Tech-Draw but will give a false error report. The following is an example of generating and SAVEing a screen from your own BASIC program.

Type in this BASIC listing and RUN it ....

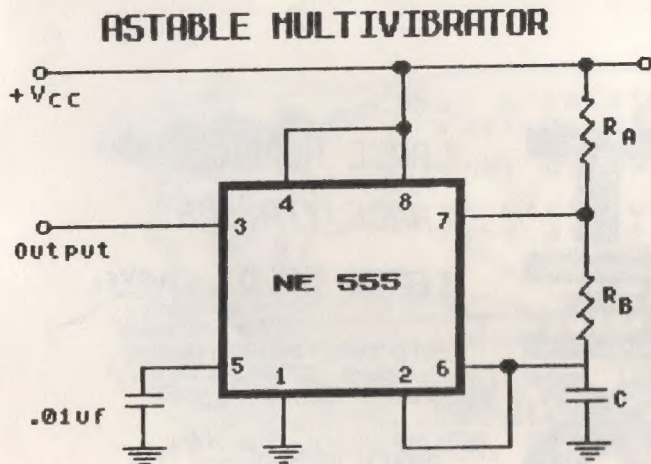
```
10 FOR a = 10 to 245 STEP 8
20 CIRCLE a,165,10
30 NEXT a
40 FOR a = 10 to 245 STEP 8
50 CIRCLE a,13,10
60 NEXT a
70 FOR a = 13 to 165 STEP 8
80 CIRCLE 10,a,10
90 NEXT a
100 FOR a = 13 to 165 STEP 8
110 CIRCLE 245,a,10
120 NEXT a
130 PRINT AT 10,6;"Insert Blank cassette,"
140 SAVE "border" CODE 16384,6144
```

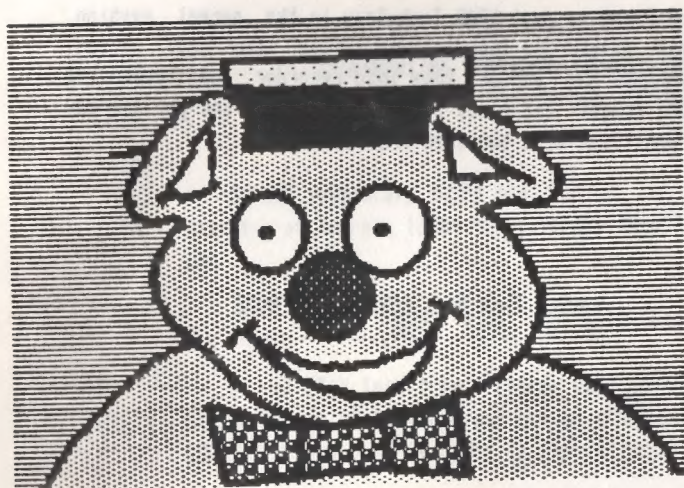
You have just Generated and SAVED to tape a screen image named "border". Now let's try LOADING this fancy border into

Tech-Draw. First we must LOAD Tech-Draw in the normal fashion, then we must invoke the I&O MENU and Select the LOAD option. After inserting the "border" tape into recorder and responding to the LOAD prompts the fancy border will appear and you are now ready to embellish with the Tech-Draw tool.

#### SAMPLE Tech-Draw SCREEN PRINTOUTS

-----





**T**  
**E**  
**X**  
**T**

LARGE NORMAL

*LARGE ITALICS*

**LARGE BOLD**

CURVES

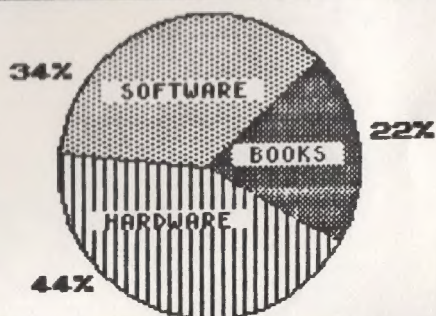
MEDIUM NORMAL  
*MEDIUM ITALICS*  
**MEDIUM BOLD**

SMALL NORMAL  
*SMALL ITALICS*  
**SMALL BOLD**

DIAGONAL  
letters



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